

**R E M A R K S**

**I.      Introduction**

In response to the Office Action dated November 14, 2007, Applicants have amended claims 1, 12 and 13 to further clarify the present invention. Care has been taken to avoid the introduction of new matter.

In response to the pending Office Action, Applicants respectfully submit that all pending claims are patentable over the cited prior art for the reasons set forth below.

**II.     The Rejection Of Claims 1, 3-13 And 15 Under 35 U.S.C. § 103**

Claims 1 and 3-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Frager et al. (USP No. 2,480,845) in view of Eaton et al. (USP No. 2,416,294); and claims 13 and 15 were rejected as being unpatentable over Germain et al. (USP No. 3,575,829). Applicants respectfully traverse these rejections for at least the following reasons.

With regard to the present invention, amended claims 1 and 12 recite, in-part, a method comprising the step of: applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that said metal portion becomes cathodic and the potential of said metal portion is -2 V or higher and -0.6 V or lower relative to the standard hydrogen electrode.

It is admitted in the Office Action that Frager fails to disclose the step of amended claims 1 and 12 the potential of said metal portion is -2 V or higher and -0.6 V or lower relative to the standard hydrogen electrode. Eaton allegedly remedies this deficiency by teaching that at voltages beyond about + or - 2 volts, metal oxide layers are removed and film formation results

and as such, it would have been obvious to use a voltage within 2 V to remove the plastic resin without removing the metal oxide layer.

However, Frager teaches a method whereby a resin film is removed from a metal piece by utilizing the gas generated from the surface of the metallic article through electrolysis (col. 2, lines 1-14 of Frager). Thus, applying a potential to the metal article to oxidize the article is effective (see, Frager, col. 2, lines 53-55).

In contrast to Frager, in the present invention a metallic article having a metal-resin joint is immersed in an alkaline solution, whereby the metal-resin joint is separated at the interface by utilizing the creeping phenomenon that occurs through electrocapillary action. Thus, the present invention applies a potential to the metal article to reduce the article. As such, the principle for separating the resin and the direction of the current flowing between the counter electrode and the metallic article are completely different between Frager and the present invention. As such, Frager fails to disclose or suggest a method comprising the step of: applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that said metal portion becomes cathodic.

Nor may Eaton be relied upon to remedy this deficiency of Frager. Eaton discloses a technique of electropolishing a metallic surface in a cyanide anion bath. As such, the metallic article must be connected to the positive terminal of a power source and the counter electrode is connected to the negative terminal. Thus, like Frager, Eaton also applies a potential to the metal article to oxidize the article. Thus, even if the two references were combined, the combination still fails to disclose or suggest the step of applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that said metal portion becomes

cathodic and the potential of said metal portion is -2 V or higher and -0.6 V or lower relative to the standard hydrogen electrode.

Turning to claim 13, amended claim 13 recites, in-part, an apparatus for separating a metal-resin joint comprising:...connecting member A comprising a conductive material a part of which is coated with an insulating oxide layer.

One embodiment of the present invention is characterized in that a connecting member A, which connects the metal portion serving as a negative electrode with one terminal of the power source, is partially coated with an insulating oxide layer. This insulating oxide layer helps to prevent the apparatus from damage when the lead is placed in the alkaline solution during the operation of the apparatus. If the alkaline solution comes in contact with the lead, this may cause the device to fail. As such, the oxide layer is beneficial to the apparatus by helping prevent contact of the alkaline solution with the lead.

It is alleged that Germain discloses an apparatus having a connecting member made of a conductive metal that may be coated with insulating oxide layer (col. 3, lines 3-7, col. 4, lines 1-4). However, Germain actually suggests the undesirability of forming an oxide layer. For example, the passage in col. 3, lines 7-8 recites "continued build-up of the insulating layer causes arcing and damage to the emerging strip material". The passage in col. 4, lines 3-6 recites "if one of the rolls 24 or 28 should become coated with oxide to the point where arcing and possible damage to the strip might result, the main power from sources 36-40 to that roll may be shut off while leaving the reverse current from source 56 flow between that roll and its electrolytic bath 54 until the roll is cleaned. At the same time, the main plating current is applied to the other rolls so that the line need not be shut down, although a lower line speed may have to be used." Thus,

Germain shows that the oxide layer formed on the metal portion is undesirable, causing lowered effectiveness of the apparatus. The oxide layer is removed if and when it does form. As such, Germain teaches away from the use of an oxide layer and accordingly, does not render claim 13 obvious.

As is well known, in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974), and as Germain fails to disclose an apparatus for separating a metal-resin joint comprising:...connecting member A comprising a conductive material a part of which is coated with an insulating oxide layer, and as Eaton and Frager, at a minimum, both fail to teach or suggest a method comprising the step of: applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that said metal portion becomes cathodic and the potential of said metal portion is -2 V or higher and -0.6 V or lower relative to the standard hydrogen electrode, it is submitted that Germain, Eaton and Frager, alone or in combination, do not render claims 1, 12, 13, or any pending claims dependent thereon, obvious.

**III. All Dependent Claims Are Allowable Because The  
Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1, 12 and 13 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

Moreover, with regard to claim 6, it is alleged that Eaton teaches that agitation or vibration further raises the bath current density. However, Eaton does not discuss the use of ultrasound to assist in the separation of the plastic from metal. As such, the combination of Eaton and Frager also fail to render claim 6 obvious.

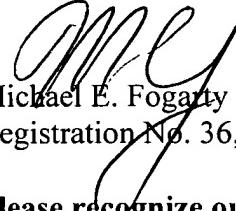
**IV. Conclusion**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**Date: February 14, 2008**